

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
24 February 2005 (24.02.2005)

PCT

(10) International Publication Number
WO 2005/016143 A1

(51) International Patent Classification⁷: **A61B 5/11**
(21) International Application Number:
PCT/AU2004/001081
(22) International Filing Date: 13 August 2004 (13.08.2004)
(25) Filing Language: English
(26) Publication Language: English
(30) Priority Data:
2003904336 15 August 2003 (15.08.2003) AU
60/514,969 27 October 2003 (27.10.2003) US

(71) Applicant (for all designated States except US): **MED-CARE SYSTEMS PTY LTD** [AU/AU]; c/o Sampark & CO, Patent and Trade Mark Attorneys, King George Chambers, Suite 415, 375 George Street, Sydney, New South Wales 2000 (AU).

(72) Inventors; and
(75) Inventors/Applicants (for US only): **MATHIE, Merryn Joy** [AU/AU]; SAMPARK & CO, Patent & Trade Mark Attorneys, King George Chambers, Suite 415, 375 George Street, Sydney, New South Wales 2000 (AU). **CELLER, Branko G** [AU/AU]; SAMPARK & CO, Patent & Trade Mark Attorneys, King George Chambers, Suite 415, 375 George Street, Sydney, New South Wales 2000 (AU). **LOVELL, Nigel H** [AU/AU]; SAMPARK & CO, Patent & Trade Mark Attorneys, King George Chambers, Suite 415, 375 George Street, Sydney, New South Wales 2000 (AU).

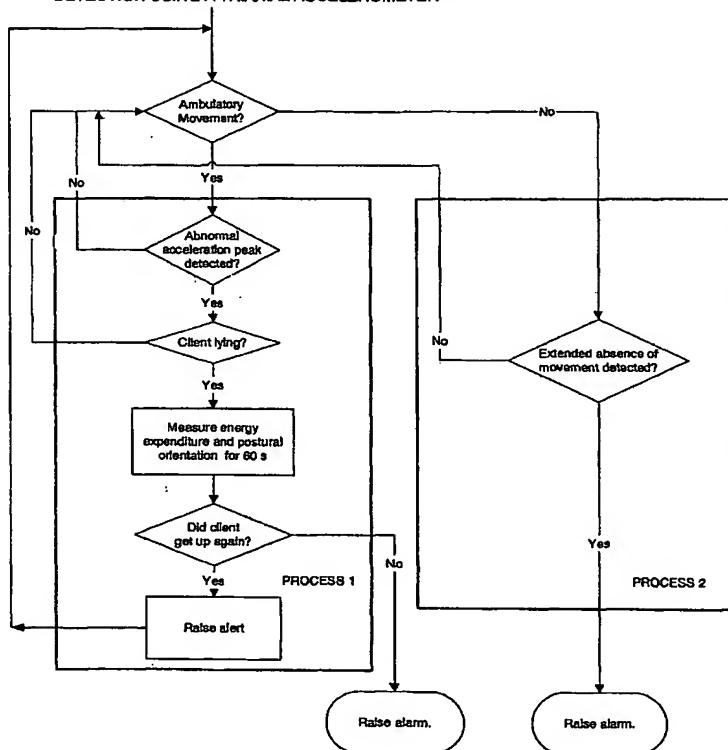
(74) Agent: **PARK, Sam**; SAMPARK & CO, Ip Lawyers, Patent & Trade Mark Attorneys, King George Chambers, Suite 415, 375 George Street, Sydney, New South Wales 2000 (AU).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

[Continued on next page]

(54) Title: A MONITORING APPARATUS FOR AN AMBULATORY SUBJECT AND A METHOD FOR MONITORING THE SAME

DATA PROCESSING FLOWCHART FOR AUTOMATED FALLS
DETECTION USING A TRIAXIAL ACCELEROMETER



(57) Abstract: The invention provides a monitoring apparatus (1) for an ambulatory subject (2) that includes a portable monitor (3) mountable on subject (3) that includes an accelerometer that determines the instant acceleration of subject (2) in one or more determined directions. It further includes a processing unit (7) that determines at least one instant ambulatory performance indicia of subject (2) from the determined instant acceleration, determines at least one designated performance threshold from at least one previously determined instant ambulatory performance indicia and initiates an event under predetermined conditions that is communicated to remote receiver (5) for the attention of carer (11), providing remote monitoring and supervision of subject (2) based on ambulatory performance of subject (2).



AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.